REMARKS

Reconsideration and withdrawal of the rejections set forth in the above-mentioned Office Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1, 2, 4-9, 11 and 12 are pending in the application, with Claim 1 being the sole independent claim. Claim 3 has been cancelled without prejudice and Claims 1, 4 and 5 have been amended. Claim 12 has been newly added herein. Support for the amendments may be found in the specification. Applicants submit that no new matter has been added.

Claims 1, 6 and 9 were rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by PCT Publication No. WO 00/37972 (Kiguchi et al.). Claims 1, 5-9 and 11 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent Application No. 2004/0201048 (Seki et al.). Claims 2 and 4 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Seki et al. Claim 3 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Seki et al. in view of U.S. Patent No. 5,015,856 (Gold). These rejections are respectfully traversed.

Applicants' invention as recited in independent Claim 1, as amended, is directed to a method of manufacturing an optical element including at least a plurality of pixels formed on a substrate and partition walls arranged respectively between adjacent pixels. The method includes the steps of: forming partition walls from a resin composition containing carbon black on a substrate; performing a dry etching process by irradiating the substrate carrying said partition walls formed thereon with plasma in an atmosphere containing a gas selected from the group consisting of oxygen, argon and helium;

performing a plasma treatment process by irradiating the substrate subjected to said dry etching process with plasma in an atmosphere containing at least fluorine atoms such that the partition walls after said plasma treatment process shows a surface having a contact angle relative to pure water of not smaller than 110°; and forming pixels by applying ink to the areas surrounded by the partition walls by means of an ink-jet system.

According to the present invention, therefore, the partition walls formed on the substrate are made to have a rough surface having a contact angle relative to pure water of not smaller than 110°, which can provide a very high ink-repellent property and can effectively prevent mixing of color inks on the partition walls. Although partition walls formed of a resin containing carbon black are known (e.g. Gold), in the present invention, such a material is subjected to the specific process to obtain a very highly water-repellent property. As described at pages 17 through 19 of the substitute specification, the reason such a water-repellency can be obtained (i.e., a contact angle of not smaller than 110°) is that when partition walls are formed from a resin composition containing carbon black, the carbon black is exposed to the surface of the partition walls by the dry etching process and fluorine or fluorine compounds are bonded to the carbon black by the plasma treatment process.

The importance of the use of carbon black in the present invention is demonstrated by the comparison of Example 1 with Example 7 in Table 1 at page 41 of the substitute specification. In Example 1, when a resin containing carbon black was used, the contact angle relative to pure water of the black matrix surface was 126° and no color mixing was observed. On the other hand, in Example 7 when a resin containing no carbon

black was used, the contact angle relative to pure water of the black matrix surface was 102° and color mixing was observed in some cases at 600 pl or higher.

Applicants submit that the cited art fails to teach or suggest important features of Applicants' claimed invention.

Kiguchi et al. describes a partition wall having a laminate structure of photosensitive organic films but it does not describe a partition wall formed from a resin composition containing carbon black. Accordingly, Applicants submit that Kiguchi et al. does not teach or suggest forming partition walls from a resin composition containing carbon black on a substrate, as recited in Claim 1.

Seki et al. describes in a Tenth Embodiment on page 21 that a substrate having a black matrix formed of a resin is subjected to oxygen plasma treatment and subsequently subjected to CF_4 plasma treatment. As the Examiner admits, however, Seki et al. does not teach or suggest use of carbon black. To remedy this deficiency, the Examiner cites to Gold.

Gold is directed to an automated process for permeability determinations of barrier resins. At column 5, lines 31-36, Gold discloses the results of an NIR scan of a barrier resin pigmented with carbon black. From this disclosure, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to use carbon black as the black pigment in the black matrix of Seki et al. Applicants respectfully disagree.

Applicants note that there is no indication in Gold that use of carbon black in a barrier resin provides any advantages over use of other black pigments. In fact, Applicants submit that Gold does not provide any teaching or motivation for the selection of carbon black for use in a resin, particularly a resin subjected to the dry etching and

plasma treatment processes disclosed in Seki et al. Applicants submit therefore, that the Examiner's reliance on Gold is misplaced.

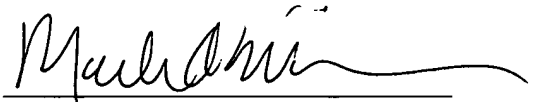
Accordingly, Applicants submit that none of the cited references teach or suggest important features of Applicants' presently claimed invention. Reconsideration and withdrawal of the rejections under §§ 102 and 103 are requested.

Applicants respectfully submit that the present invention is patentably defined by independent Claim 1. Dependent Claims 2, 4-9, 11 and 12 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent Claim 1. Individual consideration of the dependent claims is requested.

Applicants submit that the application is in condition for allowance. Favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Mark A. Williamson
Attorney for Applicants
Registration No. 33,628

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

JMC/gmc

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